The author thinks that there should be charged upon the cars as many tiers of briquets as it is convenient to place, according to the conditions of manufacture. He has shown three tiers in Fig. 126. The tunnel is likewise made considerably larger than the cars. The roof is raised so that there will be a space above the top tier of briquets, sufficient for the current of hot gases to follow the roof. By reason of the increase in width of the tunnel, forming a free space on each side between the wall and the pile

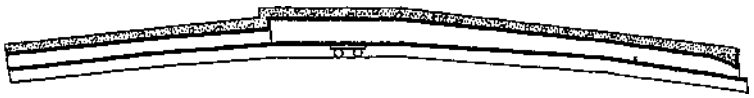

FIG. 127.

of briquets, two currents cf gases will be formed,* which will follow the hearth of the tunnel and flow into the waste-gas ports. The descending movement of the gases which causes them to pass through the tiers of briquets is indicated by the arrows.

Moreover, in order to obtain, through the length of the kiln, the descending circulation of the hot gases giving up their heat to the briquets and the ascending circulation of the air being heated, the author, instead of using the straight tunnel of Groendal, would form the tunnel on the arc of a vertical circle, raising the central

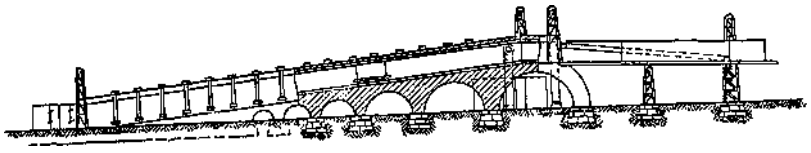

FIG. 128.

portion so that it will be higher than the ends, as is shown in Fig. 127.

A tunnel kiln constructed upon this principle would not require blowers, because the raising of the central portion (the combustion chamber) above the end at which the cold air enters the tunnel, would produce a hydrostatic pressure sufficient to overcome the

resistance to the air current offered by the tunnel through which the cars pass, carrying the cooling briquets. On the other hand, the hot gases which are produced in the combustion chamber